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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,440	11/21/2000	Lars-Goran Petersen	2380-287	8213

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EXAMINER	
LEE, TIMOTHY L	

ART UNIT	PAPER NUMBER
2662	9

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/716,440	PETERSEN ET AL.	
	Examiner	Art Unit	
	Timothy Lee	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-105* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10-25,28-41,44-55,58-70,73-84,87-96 and 99-105* is/are rejected.

7)☒ Claim(s) *8,9,26,27,42,43,56,57,71,72,85,86,97 and 98* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4,5,6,7*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 10-25, 28-41, 44-55, 58-70, 73-84, 87-96, and 99-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverman (6,731,649) in view of Lyons et al. (US 6,075,798).

3. Regarding claims 1, 36, 65, and 94, Silverman discloses a method and system for processing one or more TDMs for communication over IP networks which includes encapsulating ATM cells using AAL1 cells within UDP over IP frames. The methods described in Silverman are equally adopted for AAL2 encapsulated as well (transport by AAL2 packets). See col. 6, lines 47-51. Fig. 2 illustrates the invention. E1/T1 framer 202 decodes incoming TDM signals. A PCM bus 203 is the output from the E1/T1 framer 202 to the next block, AAL2 segmentation unit 204 (segmenting a frame of user data for transport by plural AAL2 packets...). The TDM bit stream is packed into AAL2 cells by the segmentation unit. The next block 206 packs the cells into UDP over IP frames (using one or more IP packets to transport the plural AAL2 packets). See col. 7, lines 18-30. Likewise, the reverse process occurs when received cells arrive at the AAL2 reassembly unit (reassembly unit detects...). See col. 7, lines 31-47. Silverman does not expressly disclose using a predetermined value in the LI field to indicate the frame is being transported by plural AAL2 packets. Lyons et al. discloses where when the value

in the LI field of an AAL2 cell points beyond the end of the current ATM cells, the packet is split between cells. This also implies that the data is being carried in more than one AAL2 packet. The range also extends up to 63. See col. 4, lines 6-13. It would have been obvious to incorporate the teachings of Lyons et al. in the AAL2 packets of Silverman in order to determine if a frame extended more than one AAL2 packet. One would have been motivated to do this because when the receiver receives the information, it could read the LI field to determine if it has to first buffer the packet before it receives all of the information from a respective frame. On the flip side, if the LI field indicates that all of the of the information is contained in that particular AAL2 packet, then there is no need to buffer, and the information can be forwarded more quickly than if every packet was first buffered.

4. Regarding claims 23, 53, and 82, Silverman does not expressly disclose inserting a sequence number value in the LI field of a header of all but a last of the plural AAL2 packets. Lyons et al. teaches using a 1-bit sequence number in the header of the AAL2 packet. See col. 5, lines 7-11. It would have been obvious to do the following: 1) include a sequence number as taught by Lyons et al. in the LI field mentioned previously, and 2) not include a sequence number of the last of the plural of AAL2 packets. One would have been motivated to do 1) because packets can become misconcatenated if packets are lost—to prevent this from happening, the receiver can use the sequence numbers to make sure that every packet has been received. See col. 5, lines 5-7. One would have been motivated to do 2) because not putting a sequence number on the last of the plural packets would save on overhead. If the system knew that a packet not containing a sequence number was always the last packet in that sequence, then there is no need to include this information in the header.

5. Regarding claims 31, 61, 90, Silverman does not expressly disclose not including a LI value in the last of the plural AAL2 packets. However, it would have been obvious to not include this value in the very last value. As expressed already, one would have been motivated to do this because it would save on overhead in the packet. The purpose of the value in the LI field is to indicate if information from a particular frame will be found in plural AAL2 packets. The last packet carrying information from a particular frame will obviously indicate that there is no additional information beyond it because it is the last one, so there is no need to have the LI field contain this obvious information.

6. Regarding claims 2, 10, 28, 37, 44, 58, 66, 73, 87, and 95, neither Silverman nor Lyons et al. expressly discloses where each value in a range for the LI field corresponds to a sequence number, nor do they disclose where the range can be split into two. However, it would have been obvious to map the values in the LI field to sequence numbers. One would have been motivated to do this because having the sequence numbers in the LI field reduces the overhead in the packet and allows for transmission of more actual data. It would have also been obvious to have two ranges instead of one. One would have been motivated to do this because having two ranges would offer more flexibility in the numbering of the sequence numbers.

7. Regarding claims 3, 4, 11, 19, 24, 34, 38, 45, 54, 67, 74, 83, and 96, as mentioned previously, Lyons et al. discloses that the range can reach up to 63, where the value can point beyond the end of the cell if the packet is split between cells. Also as mentioned before, it is inherent that that the last packet of a plural packet will not contain a value which indicates it goes beyond that packet because it is already the last packet.

8. Regarding claims 5, 6, 25, 39, 40, 55, 68, 69, and 84, as mentioned previously, Lyons et al. discloses that the range in the LI field extends to 63. See col. 4, lines 9-10.

9. Regarding claims 7, 14, 41, and 70, as mentioned previously, Lyons et al. discloses where the sequence field provides a module 2 sequence numbering of cells and immediate detection of cell loss.

10. Regarding claims 8, 15, 42, 48, 71, and 77, as mentioned previously, Lyons et al. discloses that the LI field contains the length information (has in its length field an actual length value of the last AAL2 packet). Lyons et al. also discloses that the sequence number can be contained in the UUI field (wherein contents of the UUI field in the header of the last AAL2 packet can be used to confirm that the last AAL2 packet is in a proper sequence). See col. 6, lines 10-11; col. 3, lines 54-59.

11. Regarding claims 16, 17, 21, 32, 49, 50, 62, 78, 79, 91, 102, and 103, as mentioned previously, if the value of the LI field exceeds a certain number, then this is an indication that the frame is split among multiple packets.

12. Regarding claims 18, 33, 22, 51, 63, 80, 92, and 104, neither Silverman nor Lyons et al. expressly discloses where the predetermined value is 46, but it would have been obvious to set the value at 46. One would have been motivated to do this because it is a matter design choice to select whatever value that the designer wants.

13. Regarding claims 20, 35, 52, 64, 81, 93, and 105, as mentioned previously, Lyons et al. discloses that the sequence number can also be located in the UUI field.

14. Regarding claims 12, 13, 29, 30, 46, 47, 59, 60, 75, 76, 88, 89, 99, 100, and 101, neither Silverman nor Lyons et al. expressly discloses making the first range from 47 to 55 and the

second range from 56 to 93. However, it would have been obvious to split it into two regions in this fashion. One would have been motivated to do this because having two ranges allows for more flexibility when it comes to sequencing the numbers. One could either use the first range or the second range in the sequencing operation.

Allowable Subject Matter

15. Claims 8-9, 26, 27, 42, 43, 56, 57, 71, 72, 85, 86, 97, and 98 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Subbiah (US 6717,948), Gerber et al. (US 6,438,131), Allan et al. (US 5,946,313), Besset-Bathias (US 6,711,126), and Humphrey (US 6,396,853) also deal with AAL2, ATM, or IP tranport.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLL
Timothy Lee
May 25, 2004

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